

Environmental Profile

This LCA is calculated according to: ISO 14044, ISO 14040 and EN 15804

Ecochain v3.5.80



Product: 3042486 - X-Stream PP End Cap BK 250
Unit: 1 piece
Manufacturer: Wavin - PL -Buk - Extra products

LCA standard: EN15804+A2 (2019)
Standard database: Worldwide - Ecoinvent v 3.6 Cut-Off
Externally verified: Yes
Issue date: 08-06-2023
End of validity: 08-06-2028
Verifier: Martijn van Hövell - SGS Search



Wavin X-Stream is a new generation of double-walled pipes and fittings made of polypropylene. The system is



This LCA was evaluated according to EN15804+A2. It was concluded that the LCA complies with this standard

The LCA background information and project dossier have been registered in the online Ecochain application in the account Wavin - PL -Buk - Extra products (2020). (☑ = module declared, MND = module not declared).

A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
☑	☑	☑	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	☑	☑	☑	☑
Product stage					Use stage							End-of-Life stage				
A1 Raw material supply A2 Transport A3 Manufacturing					B1 Use B2 Maintenance B3 Repair B4 Replacement B5 Refurbishment B6 Operational energy use B7 Operational water use							C1 De-construction demolition C2 Transport C3 Waste processing C4 Disposal				
Construction process stage					Benefits and loads beyond the system boundaries											
A4 Transport gate to site A5 Assembly / Construction installation process					D Reuse- Recovery- Recycling- potential											

Environmental impacts and parameters

GWP-total = EF EN15804+A2 Climate Change [kg CO2 eq]; **GWP-f** = EF Climate change - Fossil [kg CO2 eq]; **GWP-b** = EF EN15804+A2 Climate Change - Biogenic [kg CO2 eq]; **GWP-luluc** = EF EN15804+A2 Climate Change - Land use and LU change [kg CO2 eq]; **ODP** = EF Ozone depletion [kg CFC11 eq]; **AP** = EF Acidification [mol H+ eq]; **EP-fw** = EF Eutrophication, freshwater [kg P eq]; **EP-m** = EF Eutrophication, marine [kg N eq]; **EP-T** = EF Eutrophication, terrestrial [mol N eq]; **POCP** = EF Photochemical ozone formation [kg NMVOC eq]; **ADP-mm** = EF Resource use, minerals and metals [kg Sb eq]; **ADP-f** = EF Resource use, fossils [MJ]; **WDP** = EF Water use [m3 depriv.]; **PM** = EF Particulate matter [disease inc.]; **IR** = EF Ionising radiation [kBq U-235 eq]; **ETP-fw** = EF Ecotoxicity, freshwater [CTUe]; **HTP-c** = EF Human toxicity, cancer [CTUh]; **HTP-nc** = EF Human toxicity, non-cancer [CTUh]; **SQP** = EF Land use [Pt]; **PERE** = Use of renewable primary energy excluding renewable primary energy resources used as raw materials [MJ]; **PERM** = Use of renewable primary energy resources used as raw materials [MJ]; **PERT** = Total use of renewable primary energy resources [MJ]; **PENRE** = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials [MJ]; **PENRM** = Use of non-renewable primary energy resources used as raw materials [MJ]; **PENRT** = Total use of non-renewable primary energy resources [MJ]; **PET** = Total energy [MJ]; **SM** = Use of secondary material [kg]; **RSF** = Use of renewable secondary fuels [MJ]; **NRSF** = Use of non-renewable secondary fuels [MJ]; **FW** = Use of net fresh water [m3]; **HWD** = Hazardous waste disposed [kg]; **NHWD** = Non-hazardous waste disposed [kg]; **RWD** = Radioactive waste disposed [kg]; **CRU** = Components for re-use [kg]; **MFR** = Materials for recycling [kg]; **MER** = Materials for energy recovery [kg]; **EE** = Exported energy [MJ]; **EET** = Exported energy thermic [MJ]; **EEE** = Exported energy electric [MJ]

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Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	3.38E+0	4.03E-2	2.14E-2	3.45E+0	4.20E-2	1.27E+0	1.98E-2	-1.98E+0	2.79E+0
GWP-f	kg CO2 eq	3.37E+0	4.03E-2	2.16E-2	3.43E+0	4.20E-2	1.27E+0	1.98E-2	-1.98E+0	2.78E+0
GWP-b	kg CO2 eq	1.96E-2	2.45E-5	-2.28E-4	1.94E-2	2.55E-5	-1.68E-3	1.73E-5	-6.92E-3	1.08E-2
GWP-luluc	kg CO2 eq	8.82E-4	1.43E-5	2.21E-5	9.19E-4	1.49E-5	2.36E-4	3.35E-7	-3.89E-4	7.81E-4
ODP	kg CFC11 eq	7.99E-8	9.28E-9	1.22E-9	9.04E-8	9.68E-9	3.08E-8	4.97E-10	-8.63E-8	4.51E-8
AP	mol H+ eq	1.19E-2	2.29E-4	2.18E-4	1.24E-2	2.39E-4	1.30E-3	1.18E-5	-5.52E-3	8.39E-3
EP-fw	kg P eq	4.96E-5	3.31E-7	1.22E-6	5.11E-5	3.46E-7	6.82E-6	1.54E-8	-2.21E-5	3.62E-5
EP-m	kg N eq	1.98E-3	8.21E-5	2.29E-5	2.08E-3	8.56E-5	3.78E-4	7.82E-6	-9.78E-4	1.58E-3
EP-T	mol N eq	2.21E-2	9.04E-4	2.74E-4	2.33E-2	9.44E-4	4.16E-3	4.81E-5	-1.08E-2	1.76E-2
POCP	kg NMVOC eq	1.03E-2	2.59E-4	9.27E-5	1.06E-2	2.70E-4	1.31E-3	1.80E-5	-4.97E-3	7.27E-3
ADP-mm	kg Sb eq	4.07E-5	1.04E-6	2.90E-6	4.47E-5	1.09E-6	5.12E-6	1.19E-8	-1.32E-5	3.76E-5
ADP-f	MJ	1.18E+2	6.18E-1	2.00E-1	1.19E+2	6.45E-1	4.10E+0	3.62E-2	-6.18E+1	6.16E+1
WDP	m3 depriv.	2.29E+0	1.90E-3	7.71E-3	2.30E+0	1.98E-3	8.05E-2	1.76E-4	-1.09E+0	1.30E+0
PM	disease inc.	1.05E-7	3.63E-9	1.34E-9	1.09E-7	3.79E-9	2.13E-8	2.49E-10	-4.59E-8	8.90E-8
IR	kBq U-235 eq	6.35E-2	2.70E-3	1.50E-4	6.63E-2	2.82E-3	1.24E-2	1.68E-4	-2.94E-2	5.22E-2
ETP-fw	CTUe	1.99E+1	5.02E-1	1.78E+0	2.22E+1	5.24E-1	4.64E+0	3.06E-2	-7.86E+0	1.96E+1
HTP-c	CTUh	8.54E-10	1.79E-11	9.11E-11	9.63E-10	1.86E-11	5.60E-10	8.82E-13	-3.35E-10	1.21E-9
HTP-nc	CTUh	2.39E-8	5.98E-10	2.31E-9	2.68E-8	6.24E-10	6.92E-9	1.96E-11	-9.55E-9	2.48E-8
SQP	Pt	4.47E+0	5.29E-1	3.31E-1	5.33E+0	5.52E-1	3.28E+0	9.30E-2	-1.70E+0	7.55E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	7.18E+0	8.87E-3	3.55E+0	1.07E+1	9.25E-3	2.02E-1	1.41E-3	-7.80E-1	1.02E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	7.18E+0	8.87E-3	3.55E+0	1.07E+1	9.25E-3	2.02E-1	1.41E-3	-7.80E-1	1.02E+1
PENRE	MJ	1.26E+2	6.56E-1	2.13E-1	1.27E+2	6.85E-1	4.37E+0	3.85E-2	-6.66E+1	6.58E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.26E+2	6.56E-1	2.13E-1	1.27E+2	6.85E-1	4.37E+0	3.85E-2	-6.66E+1	6.58E+1
PET	MJ	1.34E+2	6.65E-1	3.76E+0	1.38E+2	6.94E-1	4.57E+0	3.99E-2	-6.74E+1	7.60E+1
SM	kg	0	0	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0	0
FW	m3	3.47E-2	6.99E-5	2.16E-4	3.50E-2	7.30E-5	2.37E-3	4.47E-5	-1.61E-2	2.14E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.42E-5	1.58E-6	4.03E-11	1.58E-5	1.65E-6	6.67E-6	4.36E-8	-1.51E-5	9.10E-6
NHWD	kg	1.18E-1	3.83E-2	1.56E-4	1.57E-1	4.00E-2	2.03E-1	1.60E-1	-4.87E-2	5.11E-1
RWD	kg	5.81E-5	4.20E-6	1.62E-11	6.23E-5	4.39E-6	1.57E-5	2.37E-7	-2.65E-5	5.60E-5
CRU	kg	0	0	0	0	0	0	0	0	0
MFR	kg	0	0	0	0	0	0	0	0	0
MER	kg	0	0	0	0	0	0	0	0	0
EE	MJ	0	0	0	0	0	0	0	0	0
EET	MJ	0	0	0	0	0	0	0	0	0
EEE	MJ	0	0	0	0	0	0	0	0	0



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